DOCUMENT RESUME

ED 348 376 TM 018 590

AUTHOR Kvale, Steinar
TITLE Ten Standard Responses to Qualitative Research Interviews.
PUB DATE 92
NOTE 31p.
PUB TYPE Viewpoints (Opinion/Position Papers, Essays, etc.) (120) -- Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Foreign Countries; *Interviews; *Qualitative Research; Reliability; Research Methodology; *Research Problems; *Social Science Research; Statistical Bias; Validity

ABSTRACT

Qualitative research evokes rather stereotyped responses from the mainstream of social science. The following 10 standardized responses to the stimulus "qualitative research interview" (QRI) are discussed: (1) it is not scientific, only common sense; (2) it is not objective, but subjective; (3) it is not trustworthy, but biased; (4) it is not reliable, but rests on leading questions; (5) it is not intersubjective, as different interpreters find different meanings; (6) it is not quantitative, only qualitative; (7) it is not generalizable, as there are too few subjects; (8) it is not hypothesis testing, it is only explorative; (9) it is not a formalized method as it is too person-dependent; and (10) it is not valid, but rests on subjective impressions. QRIs gather descriptions of the interviewee's life-world with respect to interpreting the meaning of the described phenomena. Since responses to QRIs are highly predictable, they may be taken into account when designing, reporting, and defending a QRI study. Issues, concepts, and arguments involved in QRIs are outlined. The relevancy of the standard critical objections to this methodology is discussed. Alternative conceptions of qualitative research from phenomenological and hermeneutic traditions are suggested. The QRI based on conversation and interaction appears as a privileged access to a linguistically constituted social world. A 40-item list of references is included. (RLC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

Journal of Phenomenological Psychology (in press)

ED348376

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☒ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Ten Standard Responses to Qualitative Research Interviews

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
STEINAR KVALE
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Steinar Kvale

Institute of Psychology, Aarhus University, Denmark

ABSTRACT

Qualitative research has tended to evoke rather stereotyped responses from the mainstream of social science. Ten standardised responses to the stimulus "quali-tative research interview" are discussed - it is: not scientific, not objective, not trustworthy, not reliable, not intersubjective, not quantitative, not generalisable, not hypothesis testing, not a formalised method, and not valid.

With the responses to qualitative interviews highly predictable, they may be taken into account when designing, reporting and defending an interview study. As a help for new qualitative researchers, some of the issues, concepts, and arguments involved are outlined, and the relevancy of the standard objections is discussed. Alternative conceptions of qualitative research, coming from phenomenological and hermeneutical traditions, are suggested. The qualitative interview based on conversation and interaction here appears as a privileged access to a linguistically constituted social world.

During the last decades there has been an increased use of qualitative research in the social sciences. This encompasses naturalistic studies, participant observation, textual analysis, and to be discussed here, qualitative research interviews. The qualitative research tends to evoke rather standardised objections from the mainstream of social science.

The stereotyped responses vary from technical issues such as "Cannot the interview findings be due to leading questions from the interviewer?" to epistemological issues such as "Qualitative research does not lead to objective and scientific knowledge". Whereas the wording and tone may vary, there are about ten core responses to the same stimulus. The qualitative research interview:

1) is not scientific, but only common sense
2) is not objective, but subjective
3) is not trustworthy, but biased
4) is not reliable, but rests upon leading questions
5) is not intersubjective; different interpreters find different meanings
6) is not quantitative, only qualitative

TM018590

BEST COPY AVAILABLE

7) is not yielding generalisable results; there are too few subjects

8) is not scientific hypothesis-testing; it is only explorative

9) is not a formalised method; it is too person-dependent

10) is not valid, but rests on subjective impressions

Such responses may follow nearly automatically, even before the specific findings and methods of an interview study have been presented. Critical objections appear endemic to current qualitative research. Bogdan and Biklen (1982) thus list and discuss eight common questions on the value of qualitative research. The concluding chapter of "Designing qualitative research" (Marshall and Rossman, 1989) is entitled "Defending the value and logic of qualitative research". The discussion often takes a polarised form; some of the frequent dichotomies are treated in the article "Beyond qualitative versus quantitative methods" by Reichardt and Cook (1979).

Much of the critique of current qualitative research is to the point: it may be sloppily carried out and yield trivial results. There is today a definite need for an internal improvement of qualitative research, for methodological stringency and production of knowledge worth knowing, and suggestions for improving qualitative research have been put forth (e.g. Flick et al., 1991; Giorgi, 1985; Miles & Huberman, 1984; Mishler, 1986; Strauss, 1987; Tesch, 1990). The ideal approach to the standard critiques of qualitative research is to produce new, worthwhile qualitative knowledge, convincing in its own right.

The topic of the present discussion is, however, more defensive: facing the standard external critiques of qualitative interviews within the existing institutional contexts. They may involve a pre-judgement, based on a conception of social science where qualitative research is expelled or relegated to a secondary position. The standardised responses may be traced to a positivist philosophy of science, which, while philosophically obsolete, still survives in many social science institutions. This may be by traditional norms for the acceptance/rejection of master's theses and dissertations, in journal reviewers' comments to submitted papers, at scientific conferences, and -

in extreme cases - when qualitative researchers go to court to defend their rights to do qualitative research. While the following discussion may be outdated philosophically and of little interest theoretically, it may still be useful to researchers who in hard core institutions have to face the standard objections to qualitative research.

The aim of the present article is to introduce novices in qualitative research to the most predictable responses to their research. The discussion focuses on the qualitative research interview, defined as an interview whose purpose is to gather descriptions of the lifeworld of the interviewee with respect to interpreting the meaning of the described phenomena (Kvale, 1983). The following catalogue of arguments though, may also pertain to a certain degree to other forms of qualitative research. With a pre-knowledge of the critique to be expected, the qualitative researcher may take it into account in designing the research if the objections are considered relevant to the specific study. If the objections are considered irrelevant, the arguments herefore can be presented in the report. This may involve outlining how the specific qualitative study differs from a mainstream approach in the problems addressed and the answers sought.

And when the standard responses appear to the finished report, the replies could be concrete, asking for how an objection pertains to the investigation reported. Such specific replies may be in the form: How does the critique of leading questions invalidate which of the findings reported? How does the objection of subjective interpretations change the specific conclusions drawn from the study?

The following presentation will though remain on a general level, outlining a framework for discussing some of the many issues raised by the standard objections. A clarification of some of the concepts involved will be attempted, some main lines of arguments outlined, alternative conceptions of the issues suggested, and relevant literature presented. The presentation may save some of the time and energy often used for external defense, and leave more resources for internal improvement of qualitative research and for facing yet less standardised challenges from the

humanities and the therapeutic tradition, such as the primacy of language and of the personal interaction in qualitative research.

1) The qualitative research interview is not scientific, but only reflects common sense

The qualitative research interview is sometimes dismissed as not being scientific; it may perhaps provide interesting results, and be propedeutic to a scientific investigation, but the interview is not a scientific method. The counterquestion hereto is "What is science?"

Neither textbooks on social science methodology, nor dictionaries of the English language provide any unequivocal and generally accepted definition of science. There exists no universally accepted definition of science according to which qualitative research may be unequivocally categorised as unscientific, or as scientific. In the Webster's Dictionary (1967) some of the definitions of science are, in abbreviated form: Knowledge as distinguished from ignorance or misunderstanding, attained through study; systematized knowledge; one of the natural sciences; knowledge covering general truths or the operations of general sciences especially as obtained and tested through scientific method; a system or method based on scientific principles. The characterisation of qualitative research as scientific or as unscientific will then depend upon which definition of science is used.

An alternative, apparently simple sociological definition of science is as the activity of and the knowledge produced by scientists. Although circular, this operational definition points to the social and historical issue of who is a scientist and who has the power to define an activity as scientific or unscientific.

There does, though, still exist some accepted core concepts of the meaning of science. Thus science should produce knowledge, this knowledge should be new, it should be systematical, and obtained methodically. A fairly acceptable definition of science would then be: the **methodical production of new, systematic, knowledge.**

The concepts of this working definition - methodical, production, new, systematic and knowledge - are again complex. Depending upon how these key terms are defined qualitative research may be characterised as either scientific or as unscientific. The one term "systematic" may thus refer to intersubjectively reproducible data, to quantitative data, to objective results, to generalisable findings, to knowledge obtained by a hypothetical deductive method. The meaning of some of these terms will be discussed more in detail below in relation to the standard objections about objectivity, quantification and generalisation.

The present conclusion is that there is no sharp dividing line between science and not science, according to which qualitative research could be unequivocally defined as unscientific or scientific. The scientific status of qualitative research comes to depend upon the chosen definition, and the definition of the key terms involved, as well as the nature of a specific qualitative study, as to what kinds of knowledge are sought, for what purpose and by which methods.

Arguing from a postpositivist perspective, Polkinghorne advocates a discourse understanding of science: Science, is not seen "as an activity of following methodological recipes that yield acceptable results". Science becomes the creative search to understand better, and it uses whatever approaches are responsive to the particular questions and subject matters addressed. Those methods are acceptable which produce results that convince the community that the new understanding is deeper, fuller, and more useful than the previous understanding" (1983, p.3).

In conclusion, with the complexity and many meanings of the concept of science, any unquivocal characterisation of qualitative research as scientific or unscientific is unwarranted. An automatic rejection of qualitative research as unscientific reflects a historically limited conception of science, rather than the meaning of science being the topic of continued public discussion.

2) The qualitative research interview is not objective, but subjective

Here the counterquestion is "How do you define "objectivity"?" Or more pointedly "Do you have an objective definition of objectivity?"

Turning to social science texts on methodology and to ordinary language dictionaries, about a dozen meanings of objectivity may be found (e.g. Bergström 1972; Pedersen, 1980; Polkinghorne, 1989; Smalling, 1989; Webster, 1967). Objectivity is often discussed as one side of a polarity: objective - subjective, unbiased - biased, public, - private, intersubjective - subjective, reflects the nature of the object - personal impressions only, reality as it exists independent of man - dependent of the subject, value-free - value-laden, impartial - partial, facts - values, physical - meaning, behaviour - consciousness, mathematical - qualitative, stable - unchanging, and universal - local.

Hereto may be mentioned some less common meanings of objectivity. In phenomenological philosophy objectivity is reached through the intentional acts of consciousness and is an expression of fidelity to the phenomena investigated. In dialectical materialism the objectively real, the material world, exist independently of human consciousness; objective knowledge is attained through the standpoint of the working class. And not only within therapy one may speak of the objectivity of love; also a psychometrician (Tschudi, 1989) may plead for a loving approach as a basis for a valid human science, following Keller's arguments for a dynamic objectivity and love in biophysical research.

A first conclusion is that, according to a definition of objectivity as intersubjectivity, the lack of intersubjective consensus on the meaning of objectivity testifies to objectivity being a rather subjective notion. The second conclusion is, accordingly, that the qualitative research interview cannot unequivocally be dismissed as lacking objectivity. The objectivity of the research interview shall be briefly discussed below with regard to three common usages of the term "objec-tivity" : free of bias, intersubjective, and reflecting the nature of the object.

Objectivity as **free of bias** refers to reliable knowledge, checked and controlled, undistorted by personal bias and prejudice, neutral, factual, and confirmable knowledge. Such a common sense conception of objective as free of bias simply implies doing good, solid research. In principle, the interview may be an objective research method in the sense of being unbiased.

The conception of objective as meaning **intersubjective** knowledge has been common in the social sciences. Scientific data shall be intersubjectively testable and reproducible - repeated observations of the same phenomenon by different observers shall give the same data. Objectivity here may refer to what a number of subjects or judges observe, sometimes expressed as "coder reliability". Scriven (1972) has termed this intersubjective form of objectivity "quantitative" and the above mentioned conception of free of bias "qualitative". He criticises the quantitative conception of objectivity as the "fallacy of intersubjectivism" with a confusion of the qualitative and the quantitative conceptions of objectivity - the sheer number of observers reporting the same phenomenon is no guarantee of truth, the success of stage magicians being one of many possible counterexamples.

In contrast to a conception of objectivity as arithmetic intersubjectivity, or coder reliability as measured mechanically by correlation of independent observ-ers, we may conceive of a dialogical intersubjectivity, where intersubjective testability involves a rational discourse and reciprocal critique among observers identifying and interpreting a phenomenon. The qualitative interview may in principle be objective in both an arithmetic and a dialogical conception of inter-subjectivity and it obtains a privileged position in a dialogue conception of objectivity.

Objective may also mean reflecting the nature of the object investigated, letting the object speak, being **adequate to the object** investigated, expressing the real nature of the object studied. The understanding of objectivity as adequate to the object comes to rest on a theoretical understanding of the object investigated. Again the interview may in principle be objective. With the object of the interview understood as being within a linguistically constituted and interpersonally negotiated social world, the qualitative research interview here becomes more objective than the methods of the natural sciences, which were developed for their non-human object domain.

The objectivity of the interview method can be discussed further with respect to the many meanings of objectivity. In the present context it shall merely be concluded that the qualitative

research interview can not be generally characterised as an unequivocally objective or subjective method. Rather the many different meanings of objectivity and the different forms of interview research should be addressed specifically.

The issue of the objectivity of the interview method is not a mere question of conceptual clarification, it is linked to a pervasive dichotomy of objectivism and subjectivism in Western thought. Bernstein describes in "Beyond objectivity and relativism" (1983) **objectivism** as the basic conviction that there exists some permanent, ahistorical matrix or framework to which we can ultimately appeal in determining the nature of knowledge, truth, reality and goodness. A realist version of objectivism implies that an objective reality exists independently of the observer and that only one correct view can be taken of it. The counterposition of **relativism** involves a view that all concepts of knowledge, truth, and reality are relative to a specific theoretical framework, a form of life or culture. In an attempt to go beyond the polarity of an objectivist realism and an "anything goes" relativism, Bernstein follows a hermeneutical tradition arguing for a dialogue conception of truth, where true knowledge is sought through a rational argument by participants in a discourse. And the medium of a discourse is language, which is neither objective or universal, nor subjective or individual, but inter-subjective.

3) The interview results cannot be trusted; they are biased

A polemical reply to this statement could be something like: "If you cannot trust the results of an interview, how can you trust the results of our conversation?" And following this line of argumentation one ends in philosophical skepticism, as expressed in the liars paradox - one man from Crete says all men from Crete are liars.

A more productive counterquestion pursuing a more practical skepticism would be: "Who cannot be trusted -and in what sense?" A common form of the question - "How do you know if your informant is telling the truth?" - has been analysed by Dean and Whyte (1969). They differentiate the many meanings of the question, as to whether the statement refers to subjects' ex-

periences and dreams or to almost objective observations, e.g. by witness reports; and they suggest various checks for ascertaining the trustworthiness of different types of statements.

The lack of trust may refer to deliberate deception, or to unwitting bias. Deception by subjects is known as cheating in tests and lying in anamnestic interviews; and various checks are usually worked into these procedures. The possibility of deliberate deception in research interviews can be checked with careful interviewing techniques, even though deception in less probable here than in test situations where subjects have more at stake. Deliberate deception on the part of the researcher is in all likelihood rare, but cannot be excluded. Scientific fraud is a general, non method-specific issue; it may also occur in the apparently well controlled intelligence testing and natural science experimentation.

Unintentional bias, by both subjects and researchers, is in all likelihood a more common problem. The studies of Orne and Rosenthal have documented how the experimenters' expectancies of the research outcome may unintentionally affect the responses of their experimental subjects. Corresponding to this well-documented experimenters' bias, one may expect an interviewers' bias - where the interviewers' hypotheses bias their questions and their interpretations of the answers. With interview procedures being little standardised, and the inter-personal interaction in the interview having a decisive impact on the results, the potential influence of an interviewer bias - in the form of the researcher's opin-ions and prejudices influencing the results - deserves careful attention. In the following two sections researcher bias will be discussed in relation to leading questions and the issue of subjective interpretations.

4) The interview findings are not reliable, they rest upon leading questions

This may be the most frequent of the stereotyped responses to the interview, often formulated as: "Cannot the interview results be due to leading questions?" Again a liars paradox is involved - an answer as "Yes, this is a serious danger" may be due to the question leading to this answer. And a "No, this is seldom the case" may demonstrate that leading questions are not that powerful.

It is a well-documented finding that even a slight rewording of a question in a questionnaire or during the interrogation of eye witnesses may influence the answer. When results of public opinion polls are published, the proponents of a political party receiving low support are quick in finding biases in the questions. In one experiment on witness reliability, subjects saw the same film of two cars colliding and were then asked about their speed. The average speed estimate to the question "About how fast were the cars going when they smashed into each other?" was 41 mph. Subjects seeing the same film, but with "smashed" replaced by "contacted" in the question, gave an average speed estimate of 32 mph (Loftus & Palmer, 1974).

While the wording of a question may inadvertently shape the content on a answer, leading questions are also used deliberately by e.g. lawyers and reporters to obtain information they suspect is being withheld. And a psychologist inves-tigating taboo areas may deliberately put the burden of denial upon the subject, as by the question "When did you last beat your wife?" In Rorschach testing, leading questions are used when "testing the limits" for specific forms of perceiving. And in Piaget's interviews with children, questions leading in wrong directions were used to test the strength of the child's concept of, for example, reversibility. Police officers and lawyers may systematically apply leading questions to test the consistency and reliability of a person's statements, a technique also demonstrated in Hamlet's interview with Polonius (Scene III, Act 2).

Leading questions are necessary parts of many questioning procedures; their use depends upon the topic and purpose of the investigation, as well as the subjects. While politicians are well experienced in warding off questions from reporters, leading questions to small children who are easily suggestible may invalidate the findings. The qualitative research interview is particularly well suited for using leading questions for checking the reliability of the interviewees' answers. Contrarily to popular opinion, leading questions do not have to reduce the reliability of interviews, but may enhance it; rather than being used too much, deliberate leading questions are today probably too little applied in research interviews.

While the technical issue of leading questions in interviews has been rather over-emphasized, the research questions of a project has received less attention. These orienting questions of a project determine what kind of answers may be obtained. The task is, again, not to avoid leading research questions, but to recognize the primacy of the question, and attempt to make the orienting questions explicit, thereby providing the reader with a possibility of evaluating their influence upon the research findings and assesses the validity of the findings.

The fact that the issue of leading questions has received so much attention by interview research may be due to a naive empiricism. There may be a belief in a neutral observational access to an objective social world, independent of the investigator, implying that interviewers collect verbal responses like botanists collect plants in nature. Within an alternative view, the interview is a conversation where the data arise in an interpersonal relationship, co-authored and co-produced by the interviewer (Kvale, 1989a). The decisive issue is then not whether to lead or not to lead, but where the interview questions lead, whether they lead in important directions, yielding new and worthwhile knowledge.

5) The interpretations of interviews are not intersubjective: different interpreters find different meanings

Different readers read different meanings in the same interview; the results are entirely subjective and dependent upon the interpreters, who only find the meanings they expected to find, and the interview is therefore not an intersubjective, scientific method. Different interpretations of the same verbatim interview texts definitely occur, though probably less often than commonly believed. In the daily practice of interview, research there are rather too few than too many interpretations.

We may here distinguish between a biased and a **perspectival subjectivity** by differences of interpretation. **A biased subjectivity** simply means unprofessional work, readers only noticing evidence supporting their own opinions, selectively interpreting and reporting statements justifying their own conclusions, overlooking any counterevidence. A perspectival subjectivity appears when

readers adapt-ing different perspectives and posing different questions to the same text come out with different interpretations of their meaning. A subjectivity in this sense of multiple perspectival interpretations is one of the specific strengths of interview research.

There is sometimes a demand for objectivity in the sense that a statement has only one correct and objective meaning, and the task of interpretation is to find this one and only literal meaning. Contrary to this demand for unequivocality, the hermeneutic mode of understanding allows for a legitimate plurality of interpretations. When interpretations appear arbitrary, this may be because the questions asked to a text are not explicitly stated. The meaning of a literary text will differ when read with respect to what the author originally meant to express, and when read with respect to what the text says of relevance to our contemporary human position. When the readers' different perspectives in a text are made explicit, the different interpretations should also become comprehensible. The main problem of current interview analysis is not the variety of interpretations, but a lack of clarification of the research questions asked to a text. With an explication of the fundamental perspectives adopted towards an interview text and a specification of the researchers' questions to an interview passage, several interpretations of the same text will not be a weakness but a richness and a strength of interview research.

The relation between questions to and answers from a text shall be illustrated with a statement from an interview with a high-school pupil on grading:

"Grades are often unjust, because they very often - very often - are only a measure of how much you talk, and how much you agree with the teacher's opinion".

Read **experientially** the meaning of this statement appears clear - the pupil experiences grades as unfair and a result of how much one talks and agrees with the teacher. Read **veridically** the pupil puts forth a hypothesis about a causal connection between how much one speaks and what grades one gets, a hypothesis which received some indirect support by triangulation and correlations (Kvale, 1989 b). Read **symptomatically**, the statement may be a possible rationalisation, the pupil justifying his own low grades by pointing out at unfair grading practices. And read

consequentially, the pupil's hypothesis may, even if wrong, still be the basis of the pupil's behaviour towards teachers and thus be real in its consequences. The four interpretations presented here are not subjective or contradictory, but are simply different answers to different questions.

In other instances there may be entirely different answers to the same question, as "Why did van Gogh cut off his ear?", discussed by Runyan (1981) in relation to the problem of alternative explanations in psychobiography. Rather than give up in the face of a dozen explanations provided in the literature for this single act, Runyan shows how it its possible to concretely evaluate the plausibility of the different explanations on the basis of their empirical support and logical inferences. In general, the more alternative interpretations have been put forth and refuted, the stronger the remaining interpretations are, and the more so the more attempts at falsification they have survived.

It should be noted that the interpretation of interviews need not be a common sense impressionistic analysis, but may draw upon methods developed in the humanities, as textual and linguistic analysis and narrative analysis (see Jensen, 1989; Mishler, 1986). If one does not conceive of the social world as reducible to a mathematically ordered universe of isolated and quantifiable variables, but as constituted by language, then linguistic methods are adequate to the objects investigated. And with a linguistically constituted social world containing a multiplicity of meanings, different interpretations of meaning are not necessarily haphazardly subjective, but objective in the sense of reflecting the nature of the objects investigated.

6) The interview is not quantitative, only qualitative

The qualitative research interview is sometimes dismissed as unscientific, since it does not result in quantitative data; quantitative research is the sole scientific approach. The degree to which observations are quantified is considered an index of the maturity of a science.

One of the most persistent requirements in modern social science has been that scientific knowledge should be quantitative. Quantification is often considered as the very criterion of science, which, when not taken as self-evident, is legitimated by referring to the natural sciences.

The contributions of natural scientists such as Darwin and Lorenz are then somehow forgotten. While quantification is an important tool in the natural sciences, large areas of geology, biology and zoology involve qualitative descriptions and interpretations.

Mathematisation of the social sciences is sometimes legitimated by pointing to the most advanced of the natural sciences - physics. The conception of physics in the social sciences has seldom been based on empirical observations of physicists' research; more often, the evidence stemmed from positivist philosophers' idealised and outdated representations of physics, resulting in the two worlds of "The physics of the physicists and the physics of the psychologists" (Brandt, 1973). In recent analyses of the practice of the natural sciences, e.g. by Hesse, (see Bernstein, 1983) any sharp bifurcation of the human and the natural sciences breaks down. Thus, apart form the basic question of why the social sciences should try to imitate the natural sciences, a brief look at the actual practice of the natural sciences erodes any automatical outlawing of qualitative research as unscientific.

Criticising positivism and a quantitative hegemony in the social sciences is today sometimes dismissed as attacking a man of straw. The quantitative man may be of straw in some disciplines, whereas at the congress of the International Union of Scientific Psychology in 1984, the presidential address by Klix from Eastern Germany outlined the development of psychology as a natural science in accordance with the principle evolved by Galilei: measure what is measurable, and make measurable what is not.

The issue of qualitative versus quantitative methods has been a heated topic in the social sciences for some time; attempts at bridging the gap (Lazarsfeld, 1944), arguments that it is a pseudo-issue (e.g. Reichard and Cook, 1979; Tschudi, 1989) have little impact; and the title of one article appears somewhat premature: "Closing down the conversation: The end of the quantitative-qualitative debate among educational researchers" (Smith & Heshusius, 1986). Below some conceptual and practical problems with strict qualitative-quantitative bifurcation will be pointed

out, and reasons for still upholding a restricted quantitative conception of science will be mentioned.

"Quality" refers to what kind, to the essential character of something. "Quan-tity" refers to how much, to how large, the amount of something. In the Web-ster's Dictionary (1967) "Qualitative analysis" is described as a chemical analysis designed to identify the components of a substance, and "quantitative analysis" as a chemical analysis designed to determine the amounts of the components of a substance. A qualitative analysis is here a pre-supposition for a quantitative analysis in a natural science such as chemistry. And a recent job announcement for oil geologists listed as a qualification "qualitative and quantitative interpretation" of the petrophysical sediments.

In social science textbooks on methodology, the basis of quantification is discussed in relation to scaling, and four types are distinguished: nominal, ordinal, interval, and ratio. Qualitative research leading to categorisation - as occurrence/non-occurrence of a phenomenon - involves scaling on a nominal level; and if the categories also include a ranking as more or less, this involves scaling at an ordinal level. Scaling at an equidistant interval level, as attempted by intelligence tests, and a ratio level with an absolute zero, as by measurement of length, is however, outside the realm of qualitative analysis. Conceptually there appears to be no ground to uphold a sharp dichotomy of qualitative and quantitative analysis, neither according to the dictionary definition of the terms nor according to the meaning of scaling in the social sciences.

In the practice of research, qualitative and quantitative approaches interact. In the "content analysis" tradition, the content and form of qualitative material is quantified and made amenable for statistical treatment. In the more open approaches to interview texts, qualitative and quantitative analysis intermingle. And in sophisticated forms of interpretation specialised techniques as linguistic and statistical analysis, may complement each other. The relative emphasis will depend on the type of phenomena investigated and the purpose of the investigation. In media research of for example TV series, both linguistic and narrative analyses of the plot and statistical analysis of viewer fre-

quency and social distribution of the viewers may be required to understand and predict the impact of a TV series.

Not only the analysis phase, but also the whole research process involve an interaction of qualitative and quantitative approaches (Mayring, 1983). An investigation starts with a qualitative analysis of the existing knowledge of a phenomenon and development of precise qualitative concepts and hypotheses for the specific study. The following phases of data collection and data analysis may be mainly qualitative or quantitative, often - as depicted above - with an interaction. The final phase of reporting the results is predominantly qualitative; even tables and correlation coefficients require a qualitative interpretation of their meaning.

There may be, however, a tendency to downplay the qualitative aspects of the research process in the published reports. Whether due to external editorial requirements or to a qualitative self-censorship by the researcher, the "soft" qualitative aspects of the research process and the findings tend to be washed away, leaving only the "hard" quantified facts as fit for public presentation.

Despite the conceptual and practical interweaving of the qualitative and quantitative aspects of social science research, a dichotomised conception with a hegemony to the quantitative side may still prevail. Most social science programs today offer mandatory courses in statistics, even voluntary courses in linguistic or narrative analysis are, however, a rarity. Social science students acquired professional competency in analysing the social world as mathematically constituted, but remain amateurs in the face of a linguistically constituted social reality.

Establishing a legitimate status for qualitative research is not done by merely pointing out the conceptual and practical interweaving of the qualitative and quantitative aspects of social research. A further step involves an interpretation of the meaning of the strong demands for quantification in current social sciences. There may be an **ontological** assumption of the social world as a basically mathematically ordered universe, where everything exists only in number form; and, accordingly, the real data of a science of the social world must be quantitative. Also there may be an **epistemological** demand that empirical findings within different theoretical approaches should be

commensurable, and the research data should thus be quantitative in order to be comparable across theories. There may further be a pragmatical, **technical**, interest in quantification, in that statistical techniques are powerful tools for handling large amounts of data. And the demand for quantification may stem from the anticipated audience of a research report - a dissertation committee, the scientific or public community, or a government agency. The use of numbers may be **rhetorical** here; when it comes to convincing an audience, the hard quantified facts may appear most trustworthy. Further, a closer look at the actual practices and contexts of quantification in social sciences may show it less linked to the actual practices of the natural sciences than to the administrative procedures of **bureaucratic** institutions. Here strictly formalised procedures of categorisation and quantification are ways of ordering and structuring the social world with quantification as one means of legitimating administrative decisions. The positivist philosophy legitimating a corresponding conception of science appears here a philosophic bureaucracy. The different reasons for demanding quantification of social science research - simplified here and presented as ontological, epistemological, technical, rhetorical, and bureaucratic - involve again different positions for qualitative research.

7) Interview results are not generalisable: there are too few subjects

A demand for generalisation has loomed heavily in current social science. To a critical question as "Why generalise?" the answer would probably be: in order to predict and control, or because science aims at universal knowledge.

The quest for general laws of human behaviour has been particularly strong in psychology, but with rather meagre results attempts in its attempts to generalise the experimental laws of behaviour to non-laboratory contexts. In a post-modern culture the quest for universal knowledge is replaced by a focus on local knowledge, thus shifting from generalisation to contextualisation (Kvale, 1990). In social constructivism, the focus is on the historical and social context of knowledge (Gergen, 1990); in system evaluation knowledge is sought which can be applied to change the specific system evaluated (Scriven, 1986). In a dialectical social science one attempts to surpass the common

polarity between universal and singular knowledge by a concrete determination of the relationship between the general, particular and singular aspects of a specific case (Dreier, 1980).

In current interview research the number of subjects tend to be either too small or too large. Too small to make generalisations if that is intended, and too many subjects to make penetrating interpretations of the interviews. The number of subjects necessary depends upon the purpose of a study. If the purpose is to predict the outcome of a national election, a representative sample of about a 1000 persons is normally required, and qualitative interviews are here out of bounds. If the purpose is to understand the biography of a prominent politician, there is the meaning of a single life history to be interpreted.

To the common question "How many interview subjects do I need?" the answer is simply "Interview so many subjects that you find out what you need to know". If the purpose of the study is, for example, to explore, to describe, and to chart attitudes towards housework, new interviews are conducted to a point where further interviews yield little new knowledge, until the law of diminishing returns applies. If the research purpose is to test a hypothesis about different attitudes of men and women towards housework, the necessary sample for a Fisher test of a hypothesis of significant differences between the two groups at a .05 level may be as small as three interviewees in each group (Siegel, 1956).

To the question of how many subjects are needed, a paradoxical answer is that if the aim of a study is to obtain general knowledge, then focus on few intensive case studies. The contribution of Freud's case studies to the general knowledge of pathology and personality is one case. Less attention has been given to the fact that a pioneer study of a natural science psychology, Ebbinghaus' experimental-statistical study of memory, was a case study with a single subject - himself. And in "A case history in scientific method" (1959), Skinner argues against the use of large groups and statistics: they are excuses for researchers who do not to work hard enough to find the specific reinforcement schedules controlling the behaviour investigated. While long discredited in social science research, the case study is recently being rehabilitated (e.g. Kazdin, 1981; Yin, 1989).

Taking into account the differences between the pioneering case studies mentioned above, two reasons for the obtainment of significant and generalisable knowledge from few subjects may be suggested. Quantitatively, each of the studies contained an immense number of observations of single individuals. Qualitatively, the focus on single cases made it possible to investigate in detail the relation of a specific behaviour to its context, to work out the logic of the relation between the individual and the situation. The specific kind of relation may vary from the reinforcement schedules of a learning experiment to the complex deeper meanings of therapeutic case studies. What is common is the working out of consistent and recurrent patterns through intensive case studies.

The reply to the standard objection that there are too few interviews to generalise is twofold; first, Why generalise? And second: If you want to generalise, then in some cases a few intensive case studies may yield the most generalisable knowledge.

8) Qualitative interviews do not involve scientific hypothesis testing; they are only explorative

Qualitative studies may be accepted as relevant in the first exploratory phases of research, but in a scientific investigation, the preparatory qualitative steps should lead to more precise hypotheses and theory, which can be experimentally tested.

Contrarily to this standard objection from social scientists, exploratory, descriptive studies may in their own right be an important part of science. Descriptive studies of a discipline's subject matter are essential in fields as diverse as geography, zoology, anatomy and linguistics. The descriptions are of importance in their own right; they may also be categorised, systematised and in some cases be subject to causal explanation. It does not make sense, however, to consider Brahe's planetary observations and Keppler's computation of their trajectories as less scientific than Newton's subsequent application of the law of gravity to the planets' trajectories.

The obtaining of precise, nuanced, rich descriptions is an important aim of qualitative research. The descriptions may then serve to work out the intrinsic structures of the described phenomena and to develop theoretical concepts and practical guidelines for the area. The de-

scriptions may be at a low level of abstraction, as by the - too common - mere reproduction of interview statements. The descriptions may also be more conceptualised and systematic, involving interpretations and categorisations, with no strict line of demarcation between meaningful description and interpretation of meaning.

Experimental testing of hypotheses is no necessary criterion or goal for social research. The nuanced descriptions of the phenomena studied have intrinsic value and constitute one of the strengths of the qualitative research interview. Hypothesis testing is no necessary part of interview research, but may take place. This may be on a general design level, such as testing hypotheses of different groups having different attitudes towards a phenomenon. And the single interview may be a process of continual hypothesis-testing - the interviewers' questions being designed to test a hypothesis, with an interplay of counterquestions, leading questions, probing questions, etc.

Qualitative research seldom follows a linear process from hypothesis formulation to data collection, data analysis and to theory construction. There is rather a continual back and forth process between observation and interaction, description and interpretation, conceptualising and theorising. Particularly in the grounded theory approach (Strauss, 1987), there is an interplay between discovery and verification, between data collection, interpretation, and theorising, with a continual formulation of new hypotheses and reinterpretation of old data.

9) The interview is not a formalised method; it is too person-dependent

"Will two interviewers independently come up with the same results?" - There exists a common worry that different interviewers will come up with different results, and that the interviews will then not be intersubjectively reproducible and thus not provide reliable, objective data. In fact, interviews by different interviewers using the same interviewguide may vary due to the different sensitivity of the interviewers concerning personal interaction as well as to their ear for and knowledge of the topics of the interviews.

A scientific method is sometimes conceived as a standard procedure of fixed steps, publicly descriptive, which can be followed, in principle, by all competent researchers. The qualitative

research interview, also termed an open, unstructured or unstandardised interview, does not live up to such demands of a formalised scientific procedure. The research interview is flexible, context-sensitive and dependent on the personal interaction of the interviewer and interviewee. According the perspective taken, the absence of standardisation in the interview is respectively a vice or a virtue of qualitative research.

For some purposes, as with comparisons of groups, it may be desirable to attempt to standardise the sensitivities of the interviewers. With most uses of qualitative interviews it is, however, desirable to employ the varying abilities and sensitivities of the interviewers to obtain different nuances and depths of the interview topic.

And rather than attempting to eliminate the personal interaction of interviewer and interviewee, we may take a lead from therapeutic interviews and regard the person of the interviewer as the primary methodological tool, with the relevant data constituted by the unique interaction created by therapist and patient (Sullivan, 1954). The focus on the interviewer as an instrument puts strong demands on the empathy and competency of the interviewer. Salner (1989) argues that when one gives up the idea of a detached non-intervening researcher, the role of the researcher takes on methodological dimension, since who the research-er is as a human being then greatly affects the outcome of the research. Tradi-tionally the competencies of a human science researcher include knowledge of methods; we should now add epistemology, analysis of everyday language, atten-tion to the ethical dimension of social research, and also an aesthetic sensitivity.

10) The interview is not a valid method: it rests upon subjective impressions

To the objection that qualitative interviews do not yield valid knowledge, the counter-question is: "What kind of validity does the interview not live up to?"

In ordinary language "validity" refers to the truth and correctness of a statement. A valid argument is wellgrounded, justifiable, strong, and convincing. A valid inference is correctly derived from its premises. In this ordinary language meaning of validity, the research interview may in

principle yield valid knowledge, depending upon the quality of the craftsmanship by interviewing and interpreting.

In social science textbooks one finds both a narrow and a broad definition of validity. The commonest definition of validation is expressed by the question: are we **measuring** what we think we are measuring? Following the common understanding of measurement, qualitative interviews and interpretations are then invalid if they do not result in numbers. A broader conception of validity pertains to whether a method **investigates** what it purports to investigate and to the extent to which observations reflect the phenomena of interest. Here the qualitative interview may in principle be a valid research method.

The standard definitions of validity in social science have been taken over from the criteria developed for psychometric tests. This applies to the empirical criterion based **concurrent** and **predictive** validity, which involves testing the scores of a test against some other test or observation that serves as a criterion. And it applies to the logical forms of validity, as **content** validity, which means how well the content of a test samples the intended subject matter, and **construct** validity which pertains to the measurement of a theoretical construct. With the possible exception of content validity, qualitative research can hardly fulfil the common validity criteria taken over from psychometric research.

In current discussions of validity in social science, however, the fact that the narrow correspondence concepts of validity have long been under critique by psychometric theoreticians is often overlooked. Cronbach has thus argued for a broader concept of construct validity which pertains to qualitative summaries as well as numerical scores: it is an open process - to validate is to investigate, "...validation is more than corroboration; it is a process for developing sounder interpretations of observations" (1971, p.433). According to Cronbach's open con-ception of validity, a research interview aiming at qualitative interpretations may in principle be a valid method.

Within recent philosophy of science there has occurred an extension from the empiristic grounding of truth and validity upon correspondence with an objective reality. Two consequences

of giving up correspondence theory of knowledge shall be briefly outlined: a move from truth as a mirror of reality to defensible knowledge claims, and an extension of validation from correspondence validity to include also a communicative and a pragmatic validity.

With an alternative concept of validity - going from correspondence with an objective reality to defensible knowledge claims - validity is ascertained by examining the sources of invalidity; and the stronger the attempts at falsification a proposition has survived, the more valid, the more trustworthy the knowledge. Validation becomes investigation, continually checking, questioning, and theoretically interpreting the findings. An investigative concept of validation is inherent in the grounded theory approach of Glasser and Strauss (1967). Validation is here not some final product control or verification; verification is built into the research process with continual checks of the credibility, plausibility and trustworthiness of the findings. Miles and Huberman (1984) emphasize that there are no canons or infallible decision rules for establishing the validity of qualitative research. Their approach is to analyse the many sources of potential biases that may invalidate qualitative observations and interpretations, and to outline in detail different tactics for testing and confirming qualitative findings.

A move from knowledge as correspondence with an objective reality to knowledge as a social constitution of reality leads to a change of emphasis from observation of, to a conversation and interaction with the social world, which in turn involves communicative and a pragmatic concept of validity (Kvale, 1989b). **Communicative validity** implies testing the validity of knowledge claims in a dialogue. Valid knowledge emerges as conflicting knowledge claims are argued in a dialogue. A communicative approach to validation is found in disciplines such as psychoanalysis and system evaluation, and raises the issues of the form of the dialogue - rational discourse vs an emotional encounter - and of who are the participants in the conversation - the subjects of the investigation, the community of scholars or the general public. **Pragmatic validation** is verification in a literal sense, "to make true". Man must prove the truth, that is the reality and power of his thinking in practice. A pragmatic understanding of validation is found in action research, as well as in

psychoanalysis and systems evaluation. Pragmatic validation goes beyond the consensus ideal of a dialogue to involve action also; it focuses on whether the new interpretations lead to changes in behaviour, and whether an investigation can be used to improve the conditions studied.

The understanding of validation suggested here - validation as investigation, and a communicative and a pragmatic approach to validity - does not solve the issue of the validity of the research interview, nor does it come up with a set of alternative criteria to the psychometric forms of validation. Rather, it suggests alternative contexts for understanding the validity of social research, with alternative questions to be asked about the truth of the results. The approach to validation as investigation involves going beyond a true/false dichotomy and it conceives of validation as good craftsmanship in research. And by going beyond the correspondence theory of knowledge at the root of the older psychometric validity concepts to conceive validation as communication with and action upon the social world, the research interview based on conversation and interaction attains a privileged position.

We concluded the section on science by quoting Polkinghorne for a discoursive conception of science, where scientific arguments have to convince the community that a new understanding is better. We shall conclude this section on validity by a quote from Cronbach. In an article where he argues that value-free standards for validity is a contradiction in terms, he concludes with a communicative concept validity resting upon public discussion: "As with a scientific theory ..., interpretation of a test is going to remain open and unsettled, the more so because of the role values play in action based on tests.

The validity of an interpretation cannot be established by a research monograph or detailed manual. The aim for the report is to advance sensible discussion... The institutions of the polity are geared to weigh up reasonable, partly persuasive, disputed arguments; and they can be tolerant when we acknowledge uncertainties. The more we learn, and the franker we are with ourselves and our clientele, the more valid the use of tests will become" (1980, p. 107).

Conclusion

The present focus on external critique is a double-edged sword: it may support an already strong trend of external legitimation in qualitative research, or it may be conducive to an internal improvement of the quality of qualitative research. Today a disproportioned amount of time and energy is spent in defending and legitimising interview research. The high external defense expenditures occur at the expense of an internal improvement of the quality of qualitative research, of enhancing its stringency and creativity. The purpose of the present discussion of the ten standard objections has been to acquaint new qualitative researchers with the predictable responses to their research. This pre-knowledge may save the novice some of the time often spent at external defense, and leave resources for improvement according to internal criteria for qualitative research. In the long run the scientific merits of qualitative research will not be established by arguments of legitimation, but by contributions of significant new knowledge of a linguistically constituted social world.

Three conclusions of the preceding discussion shall be drawn here. First, the standard objections contain many global and ambiguous concepts - such as objective, valid, etc. In order to clarify the research status of the interview, a first task is simply to start **defining** the concepts used in the standard objections. The meaning of the ambiguous terms may be interpreted, and the meanings employed in a specific research project should be defined as precisely as possible. And it is necessary to clarify which of the objections to the qualitative research interview are general problems of research - such as investigator bias, and what objections raise issues more specific to the interview - such as the impact of leading questions. And the levels at which the objections are raised needs to be specified; the question of leading questions may thus involve interview technique as well as the philosophical issue of a neutral access to an objective empirical world.

Second, not only is the content of the objections to qualitative research standardised, but so is the polarised form as **dichotomies** - objective vs. subjective, quantitative vs. qualitative, etc. The

very form of the objections, or questions, is leading, having an inbuilt presupposition of the nature of knowledge as dichotomised into true or false. Each part of the posited dichotomy may then serve as a tribal banner for competing groups; in the start fueling a heated con-troversy, gradually replaced by an insight that the controversy may involve a pseudo-issue. The field is then left and replaced by a new controversy under a different banner, but it retains the dichotomised form as well as several of the old themes and supporters on each side. There appears to be a dichotomy of the decade in the social sciences: in the 60s, natural science vs humanities; in the 70s quantitative vs. qualitative, in the 80s objective vs. subjective and in the 90s perhaps universal vs. local knowledge. The way out of the dichotomised pseudo-issues would be to go beyond a dichotomised thinking in either/or categories by a description of and a dialogue about the qualitative differences and nuances of the issues raised (e.g. Bernstein, 1983).

A third conclusion is the impetus to question **the nature of a social science** on the basis of the objections commonly raised to the qualitative research interview. Is thus the dependence upon the person of the interviewer, on his or her sensitivity and competence, a vice or a virtue of social research? And, more generally, is it fruitful to conceive of social research as investigating an objective social reality independent of the language and constituting concepts of the investigator? (e.g. Polkinghorne, 1983). Much current discussion on qualitative methods has remained on an atheoretical method level, without questioning the relation of a method to the nature of the objects investigated, which invokes a theoretical conception of the social world. Perhaps one main contribution of the current interest in qualitative research will be an impetus to rethink the nature of the social reality studied by the social sciences.

The present discussion started with ten standard objections to interview research. As an impetus to rethink the nature of the research interview, ten alternative challenges shall be put forth. Current interview research is **individualistic**, it focuses on the individual and neglects its embededness within networks of social relations. Interview research is **isolationist**, it focuses on individual experiences decontextualised from their culture and history. Interview research is in-

tellectualistic, it neglects the emotional aspects of knowledge, overlooking empathy as a mode of knowing. Interview research is **idealistic**, it ignores the situatedness of human experience and behaviour in a social and material world. Interview research is **immobile**, its subjects sit and talk, they do not move or act in the world. Interview research is **verbalising**, it makes a fetish of verbal transcripts, overlooking their rootedness in a bodily situated personal interaction. Interview research is **alinguistic**; although the medium is language, linguistic methods for analysing language, as the well as philosophical analysis of the social world as linguistically constituted, are ignored. Interview research is **atheoretical**, it rests upon interview statements, seldom draws in existing research and theory of the field. Interview research is **arhetorical**, published reports are more often a boring empiristic collection of interview quotes, than a well told convincing story. Finally, current interview research may be **insignificant**, producing trivial knowledge; the main challenge to the development of qualitative interview research is to produce new knowledge worth knowing.

References

Bergström, L. (1972). *Objektivitet*. Stockholm: Prisma.

Bernstein, R.J. (1983). *Beyond objectivism and relativism*. Philadelphia: University of Pennsylvania Press.

Bogdan, R. & Biklen, S.K. (1982). *Qualitative research for education*. Boston: Albyn & Bacon.

Brandt, L.J. (1973). The physics of the physicists and the physics of the psychologists. *International Journal of Psychology, 8*, 61-72.

Cronbach, L.J. (1971). Test validation. In: R.L. Thorndike (Ed.). *Educational measurement*. Washington. D.C.: American Council of Education, 442-507.

Cronbach, L.J. (1980) Validity on parole: How can we go straight? *New Directions for Testing and Measurement*, 5, 99-108.

Dean, J.P. & Whyte, W.F. (1969) "How do you know if the informant is telling the truth?" In G.J. McCall & J.L.Simmons (Eds.) *Issues in participant observation*. Reading: Addison-Wesley, 105-115.

Dreier, O. (1980) *Familiäres Sein und familiäres Bewusstsein*. Frankfurt: Campus.

Flick, U., v. Kardoff, E., Keupp, H., v. Rosenstiel, L. & Wolff, S. (Eds.) (1991). *Handbuch Qualitative Sozialforschung*. München: Psychologie Verlag Union.

Gergen.K.J. (1990). Toward a post-modern psychology. *The Humanistic Psychologist, 18* (1), 23-24.

Giorgi, A. (1985) The phenomenological psychology of learning and the verbal learning tradition. In A. Giorgi (Ed.) *Phenomenology and psychological research*. Pittsburgh: Duquesne University Press, 23-85.

Glasser, B.G. & Strauss, E. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New York: Aldine.

Jensen, K.B. (1989) Discourses of interviewing: Validating qualitative research findings through textual analysis. In S. Kvale (Ed.) *Issues of validity in qualitative research*. Lund: Studentliteratur, 93-108.

Kazdin, A.E. (1981). Drawing valid inferences from case studies. *Journal of Counseling and Clinical Psychology*, 49, 183-192.

Kvale, S. (1983). The qualitative research interview - a phenomenological and a hermeneutical mode of understanding. *Journal of Phenomenological Psychology*, 14, 171-196.

Kvale, S. (1989a). The primacy of the interview. *Methods, 3*,- 37.

Kvale, S. (1989b) To validate is to question. In: S. Kvale (Ed.). *Issues of validity in qualitative research*. Lund: Studentlitteratur, 73-92.

Kvale, S. (1990). Post-modern psychology - a contradiction in adjecto? *The Humanistic Psychologist*, *18* (1), 23-24.

Lazarsfeld, P.L. (1944). The controversy over detailed interviews - an offer for negotiation. *Public Opinion Quarterly*, 38-60.

Lofthus, E.L. & Palmer, J.C. (1974). Reconstruction of automobile destruction: An example of the interaction between language and memory. *Journal of Verbal Learning and Verbal Behavior*, *13*, 585-589.

Mayring, P. (1983). *Qualitative Inhaltsanalyse*. Weinheim: Beltz.

Miles, M.B. & Huberman, A.M. (1984). *Qualitative data analysis*: *A sourcebook of new methods*. Beverly Hills: Sage.

Mishler, E.G. (1986). *Research interviewing - Context and narrative*. Cambridge, MA.: Harvard University Press.

Pedersen, S.A. (1980) Objektivitetsbegrepets mangetydighed. *Agrippa*, *2*, (3), 4-27.

Polkinghorne, D.E. (1983). *Methodology for the human sciences*. Albany: State University of New York Press.

Polkinghorne, D.E. (1989). Changing conversations about human science. In: S. Kvale (Ed.). *Issues of validity in qualitative research*. Lund: Studenterlitteratur, 13-45.

Reichardt, C.S. & Cook, T.S. (1979). Beyond qualitative versus quantitative methods. In: T.S. Cook & C.S. Reichardt (Eds.). *Qualitative and quantitative methods in evaluation research*. Beverly Hills: Sage, 7-32.

Runyan, W.M. (1981). Why did van Gogh cut off his ear? The problem of alternative explanations in psychobiography. *Journal of Personality and Social Psychology*, *40*, 1070-1077.

Salner, M. Validity in human science research. In: S. Kvale (Ed.): *Issues of validity in qualitative research*. Lund: Studenterlitteratur, 47-72

Scriven, M. (1972). Objectivity and subjectivity in educational research. In: L.G. Thomas (Ed.). *Philosophical redirection of educational research*. Chicago: Chicago University Press, 95-142.

Scriven, M. (1986). Evaluation as a paradigm for educational research. In E.R. House (Ed.). *New directions in educational evaluation*. London: Falmer, 53-67.

Siegel, S. (1956). *Nonparametric statistics for the behavioral sciences*. New York: McGraw-Hill.

Skinner, B.F. (1959). A case history in scientific method. In B.F. Skinner (Ed.). *Cumulative record*. London: Methuen, 76-100.

Smalling, A. (1989) Münchhausen-objectivity: A bootstrap-conception of objectivity as a methodological norm. Manuscript. Leiden University, The Netherlands.

Smith, J.K. & Heshusius, L. (1986) Closing down the conversation: The end of the quantitative-qualitative debate among educational researchers. *Educational Researcher*, 15 (1),4-12.

Strauss, A. (1987). *Qualitative analysis for social scientist.* Cambridge: Cambridge University Press.

Tesch, R. (1990). *Qualitative research: Analysis types and software tools.* N.Y.: Falmer Press.

Tschudi, F.(1989) Do qualitative and quantitative methods require different approaches to validity? In: S.Kvale (Ed.): *Issues of validity in qualitative research.* Lund: Studentlitteratur, 109-134.

Webster's seventh new collegiate dictionary. (1967). Springfield: Merriam.

Yin, R.K. (1989). *Case study research.* Beverly Hills: Sage.